IN THE CLAIMS

1 (Original). A method comprising:

illuminating a carbon nanotube with a first laser beam and a second laser beam transverse to one another; and

monitoring the effect on transmission of light from said first laser beam as the polarization of the second laser beam is changed.

2 (Original). The method of claim 1 wherein monitoring the effect on transmission of light includes monitoring the intensity of light transmitted.

3 (Original). The method of claim 1 including passing a carbon nanotube through a microfluidic chip.

4 (Original). The method of claim 3 including passing said carbon nanotube through a passage through said chip.

5 (Original). The method of claim 4 including providing a waveguide through said chip transverse to said passage and illuminating said waveguide with said first laser beam.

6 (Original). The method of claim 1 including trapping a carbon nanotube using said second laser beam.

7 (Original). The method of claim 6 including moving said carbon nanotube using said second laser beam.

8 (Original). The method of claim 1 including determining whether the carbon nanotube reorients in response to a change in polarization of said second laser beam.

9 (Original). An apparatus comprising:

a first laser;

a second laser;

an optical trap wherein said first laser and second laser extend transversely to one another;

a device to change the polarization of said second laser; and

a detector to detect the effect on light from said first laser when the polarization of said second laser is changed.

10 (Original). The apparatus of claim 9 wherein said device is a diffractive lens.

11 (Original). The apparatus of claim 9 wherein said detector is a photodetector to detect the intensity of transmitted laser light from said first laser.

12 (Original). The apparatus of claim 9 including a mirror to reflect light from said second laser into an optical trap in a direction transverse to the direction of propagation of light from said first laser.

Claims 13-15 (Canceled).